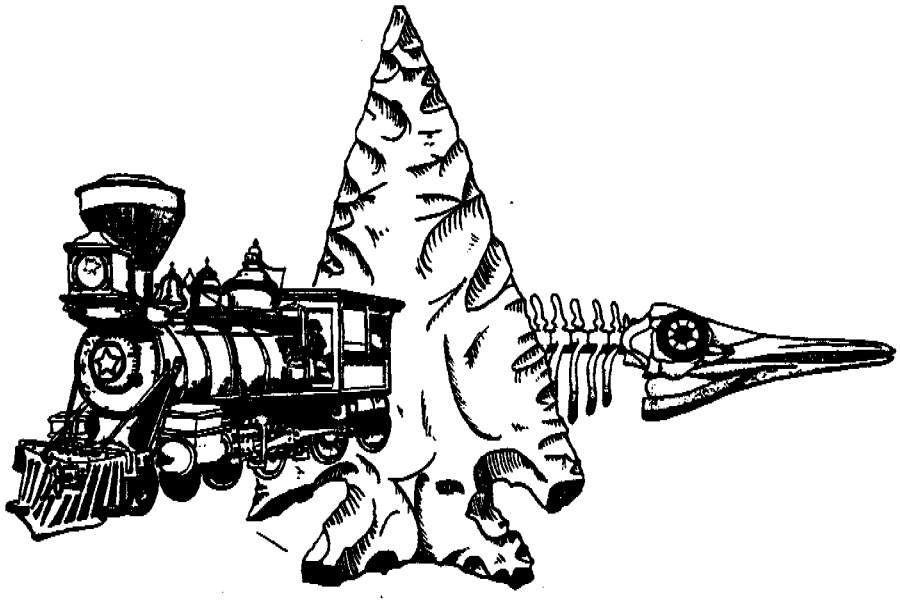
BUREAU OF LAND MANAGEMENT
NEVADA

CONTRIBUTIONS TO THE STUDY OF CULTURAL RESOURCES



An Historic Overview of the BLM Shoshone-Eureka Resource Area, Nevada

TECHNICAL REPORT NO. 7

RENO, NEVADA 1981

An Historic Overview

of the BLM

Shoshone-Eureka Resource Area,

Nevada

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Department of the Interior

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INTRODUCTION

The Shoshone-Eureka Resource Area lies within the Great Basin physiographic region. Situated in central Nevada, the resource area includes the modern communities of Battle Mountain, Austin and Eureka. Boundaries for the study area largely follow county lines. Lander and Eureka counties form the western and eastern borders, respectively. The northern limit of the resource area consists of extensions of both these counties, while the southern boundary falls just south of Nye County line (Figure 1).

Land forms, vegetation and climate are typical of the central Great Basin. The region is marked by linear, roughly north-south trending mountain ranges separated by similarly shaped valleys. Vegetation is remarkably homogeneous, but varies with altitude, water level, and salt content. Valley bottoms contain varying concentrations of big sage, greasewood, rabbitbrush and other species. Mountain slopes also support sagebrush, but are noteworthy because of pinyon and juniper forests. Finally, the climate is characterized by low humidity with hot summers and cold winters. Precipitation is elevation dependent with valleys receiving roughly eight inches annually and mountainous areas receiving up to 16 inches.

This history of Shoshone-Eureka Resource area is largely based on secondary sources, being compiled from other histories and not original documents. As a result, some of the biases of earlier historians are inevitably perpetuated in the present study.

Another possible bias deals with the time period which is emphasized in this paper. Information and historical events prior to 1900 are stressed since this period was most productive. The years between 1860 and 1890 were marked by explosive population and economic growth, caused primarily by a series of silver strikes. After 1890, as mining production began to decline, the importance of this area of Nevada also diminished.

A final bias in this history is the emphasis on mining. Extensive literature is available concerning mines and mineral production, although coverage is usually on a district level rather than a community one. This literature lacks historic sociological data. Information for the ranching industry is under-represented since data on this subject appear to be unavailable.

In preparing this history, a variety of sources were consulted. Initially the historic bibliographies of Higgins (1975) and Armstrong (1966) were consulted for the possibility of readily available manuscripts. After reviewing the limited number of historic references available at the Battle Mountain District Office, one week was spent in Reno for library research. During this time documents from the Nevada Historical Society, University of Nevada Library, Special Collections, and the Washoe County Library were examined. This research was far from complete and additional data are available at these locations. Finally, extensive use was made of the inter-library loan system in order to obtain locally unavailable books.

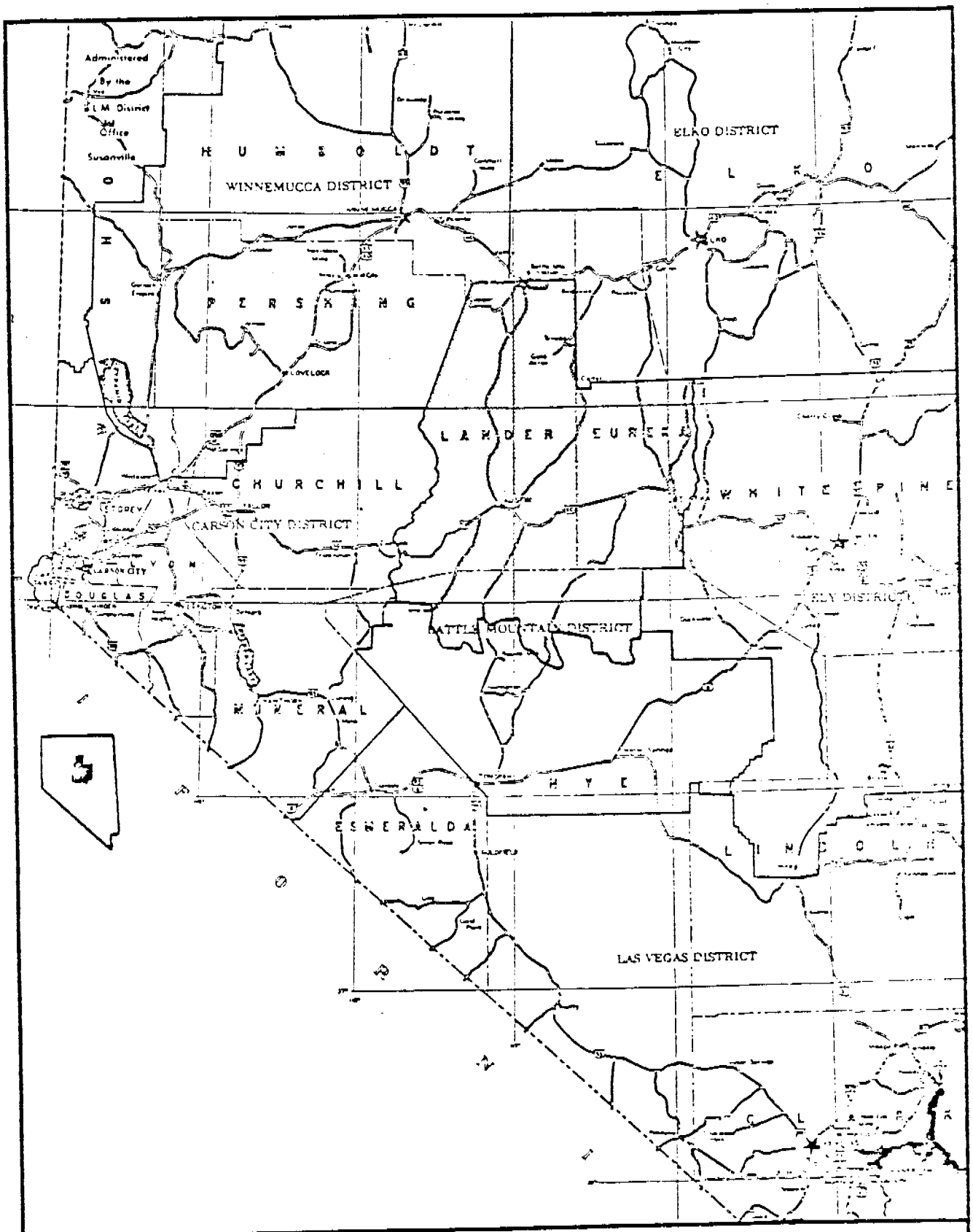

Figure 1. Shoshone-Eureka Resource Area in relationship to the Battle Mountain District and the State of Nevada.

EARLY EXPLORATIONS

Recorded history of Shoshone-Eureka Resource Area begins with fur trappers. Between 1820 and 1830, as many as 1,000 hunters at any one time may have been in the Snake River Country, which includes the northern Great Basin and the Humboldt River (Rusco 1976). Peter Ogden, leader of the Snake River Brigade of Hudson Bay Company, trapped beaver along the Humboldt during 1826 and 1828 (Goodwin 1966). While paralleling the river, members of his hunting parties may have investigated portions of the resource area. Various other expeditions continued to trap sporadically along the Humboldt until 1846 (Cline 1963), although these groups often met with limited success because of diminishing beaver colonies.

The Humboldt River was important in other ways. Immigrant trains began their trek from the East, as the lure of California increased. The Bidwell-Bartelson Party in 1841 was the first to cross Nevada (Angel 1881). The Humboldt provided a natural avenue with readily available water and grass. Migration gradually increased, but the discovery of gold provided the impetus for mass movement across Nevada (Nichols n.d.). The Central, or Simpson, Route was also used by immigrants (Preston n.d.), but not nearly to the extent of the Humboldt.

Military and government sponsored explorations of this portion of the Great Basin began with the travels of John C. Fremont in 1845 (Figure 2). Accompanied by the famous Kit Carson, Fremont entered the resource area at Diamond Valley (Patterson et al. 1969). His party crossed Cho-kup Pass, later used by the Pony Express and Overland Stage, and proceeded southwest into Big Smoky Valley, which he named (Berg 1942). After camping near the present day location of Kingston, Nevada, Fremont continued through the valley and rejoined the remainder of his party at Walker Lake (Berg 1942).

An expedition led by Lieutenant E. G. Beckwith crossed the central portion of the study area in 1854 (Figure 2). This particular party, sponsored by the Bureau of Topographic Engineers, was the first of several groups that extensively examined portions of the Great Basin in order to determine the easiest route for a transcontinental railroad (Patterson et al. 1969).

Beckwith was responsible for completing the study initiated by Captain John Gunnison, who was killed by Indians in Colorado. Beckwith's party passed through Pine Valley north of Mount Tenabo and proceeded into Cresent Valley and then traveled northwest, ultimately passing south of Battle Mountain. His report is apparently sketchy and of limited utility as an early description of the area (Patterson et al. 1969).

John Reese, also in 1854, traveled the length of Reese River. Working as a scout for Colonel E. Steptoe, Reese explored the valley and named the stream New River, although this was later changed by Captain Simpson. Like several other government explorers during this time, Steptoe was searching for a military route across Nevada (Goodwin 1966).

Howard Egan, who served as a captain in the Mormon Militia, explored parts of the Great Basin during 1855 and 1858. His wanderings led to a relocation of Chorpenning's pioneered mail route which had previously followed the Humboldt (Egan 1917; Patterson et al. 1969). His knowledge played an important role in developing the central route as surveyed by Captain James Simpson, since Egan served as main scout. Most of his earlier experience, however, extended from Utah to Pine Valley and the Diamond Mountains.

Captain Simpson's field notes provide an excellent description of his route across the resource area (Figure 2). Conducted in 1859, his survey searched for a feasible military road between Camp Floyd, Utah and Genoa, Nevada. Both John Reese and Howard Egan served as scouts because of their prior experience in the region (Goodwin 1966).

The Simpson party entered the study area at Cho-kup Pass in the Diamond Mountains, named after a local Shoshone Chief (Simpson 1876). Later this name would be changed to Overland Pass. The 64-man group proceeded southwesterly, crossing the Sulphur Spring Range near Garden Pass. At this point Simpson records an apparent Shoshone game trap. He "notice(d) a couple of brush-fences or barriers converging to a narrow pass, and a large hole in the last portion" (Simpson 1876:70). After camping in the vicinity of Roberts Creek Ranch, the troops crossed Kobeh Flat (a Shoshone term meaning face; given by Simpson) and eventually crossed the Toiyabes at Simpson Park Canyon north of Austin.

Reese River was, in 1859, "10 feet wide, one and one-half feet deep; current moderate... trout weighing two and one-half pounds are found in it" (Simpson 1876:78), although this observation was made during the peak runoff month of May.

Continuing their journey and roughly paralleling the present route of Highway 2, they passed through the Desatoya Mountains at Smith Creek. "Exceeding forbidding in appearance" (Simpson 1876:80) is their description of Smith Creek Valley, presumably because of its large dry lake.

Simpson and his party's return eastward roughly followed their preceeding journey, except that they maintained a southerly route across Kobeh Flat. In passing through Devil's Gate, which Simpson named Swallow Canyon, he described the area as "a narrow valley thickly clothed with different kinds of grass of luxuriant growth" (Simpson 1876:113). The expedition left the resource area near the present site of Eureka, Nevada, across Pinto Summit.

Captain Simpson recognized the benefits of using local Indians as scouts. His treatment of these people may have been unique during a time when debates were held to determine whether or not they were human. He states:

> I have made it to a point to treat the Indians I meet kindly, making them small presents, which I trust will not be without their use in securing their friendly feelings and conduct. A great many of the difficulties our country has had with the Indians, according to my observation and experience, have grown out of the bad treatment they have received at the hands of insolent and cowardly

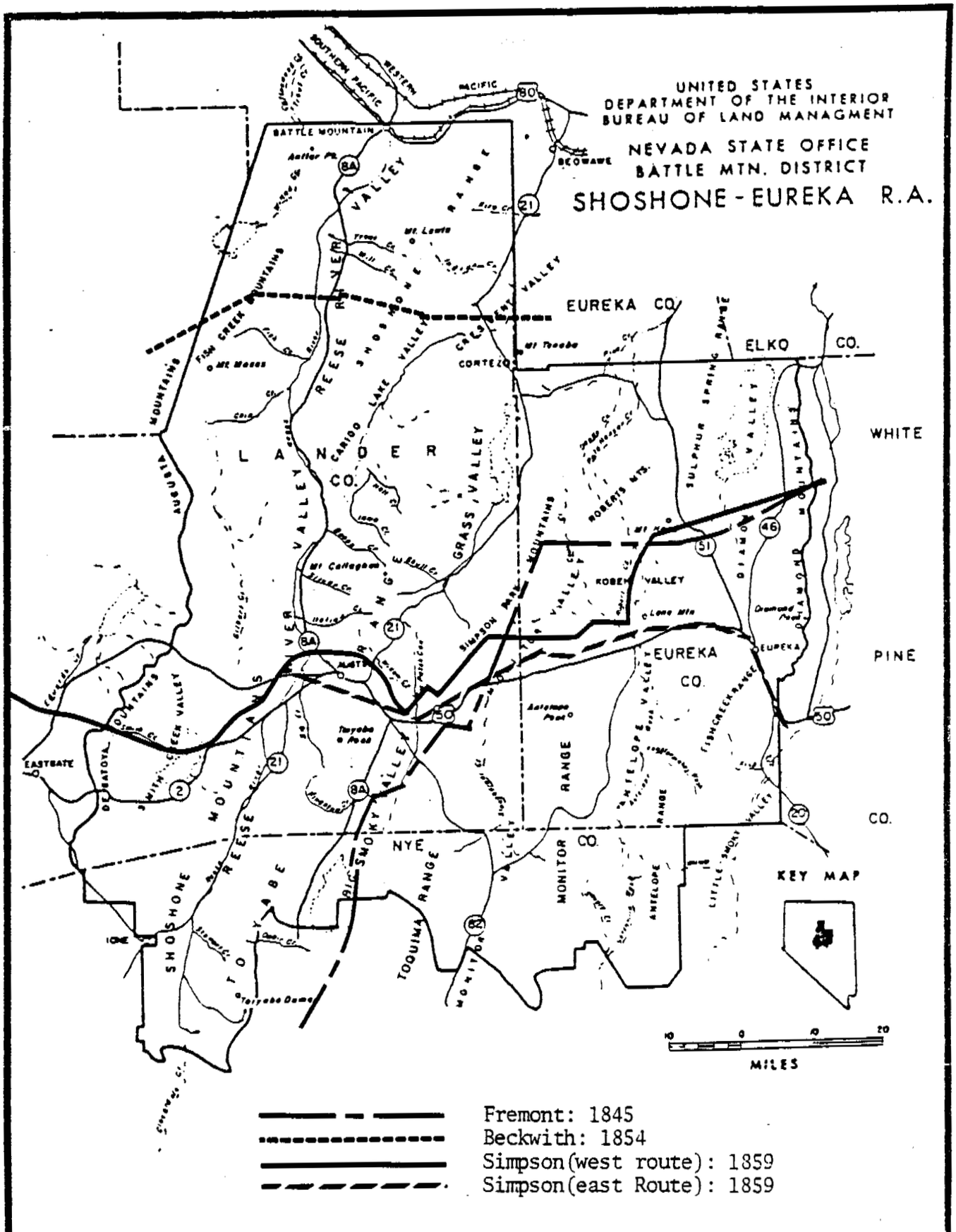

Figure 2. Routes of explorers across Shoshone-Eureka Resource Area.

> men, who, not gifted with the bravery which is perfectly consistent with a kind and generous heart, have, when they thought they could do it with impunity, maltreated them; the consequences resulting that the very next body of whites they have met have not unfrequently been made to suffer the penalties which, in this way, they are almost always sure to inflict indiscriminately on parties, whether they deserve it or not (1876:68).

Completed at the beginning of the Civil War, Simpson's report remained in Washington and was not published until 1876. In addition to an excellent description of the route, his report contains 19 appendices on such topics as geology, paleontology, ornithology, ichthyology, botany, ethnography, and linguistics.

Work on the road began almost immediately upon completion of Simpson's exploration. Colonel Frederick Lander, for whom the county would be named, led construction activities between Huntington and Carson Valley during 1859 and 1860. This route would prove to be historically significant because of its use by the Pony Express and Overland Mail Company.

In addition to the above expeditions, the government financed four comprehensive surveys of the West led by Clarence King, George Wheeler, John Powell and Ferdinand Hayden. These studies were intended to provide knowledge and information about the Western United States. With the Civil War completed, money and manpower were available for such studies. These surveys were commissioned from 1867 to 1879, at which time the United States Geological Survey was formed and continued the research.

Two of these surveys included portions of the resource area. King examined a large cross section, the Fortieth Parallel, from the Rocky Mountains to the Sierras and prepared a geologic analysis of the area (Bartlett 1962). Wheeler's project, on the other hand, was much more extensive in scope. It consisted of a geographical survey west of the one hundredth meridian and was designed to map topographic features for military purposes. Both parties included a scientific staff of similar composition to that attached to the Simpson expedition, and numerous publications on various scientific subjects resulted (Bartlett 1962).

COMMERCE AND COMMUNICATION

Mail service played an important role in developing Nevada and the West. The earliest service to cross the State began in 1851 and was operated by Colonel A. Woodward and George Chorpening. Known as the "Jackass Mail" or "Jackass Express", their line ran along the main immigrant trail in Nevada, paralleling the Humboldt River.

Mail, carried by mules, was delivered once a month (Angel 1881). The Jackass Express continued until 1854 when Chorpening, surviving member of the partnership, transferred to the Southern Route from San Diego to Salt Lake City (Patterson et al. 1969).

A new mail contract in 1858 once again brought mail service to the Humboldt or Immigrant Route. In an attempt to shorten mail distance, Chorpening moved the eastern portion of his line to a route originally surveyed by Howard Egan (Egan 1917; Hafen 1926). This new route followed the Humboldt eastward to Gravelly Ford (near Beowawe, Nevada) where it veered southward into Pine Valley through Diamond Valley at Railroad Pass and continued on to Salt Lake City (Angel 1881; Goodwin 1966).

Chorpening moved his service back to the Central Route once Colonel Lander completed the military road. Several stations were apparently constructed, or at least started, before his contract was transferred to Jones, Russell and Company of Pony Express fame (Patterson et al. 1969).

The celebrated Pony Express (Figure 3) only operated for the short period of time between April 1860 and October 1861 before being phased out after completion of the Overland Telegraph line. The Pony Express was initiated in order to prove the utility of the Central Route from Sacramento to Salt Lake City (Hafen 1926). The contractors, Russell, Majors and Waddell, hoped that a successful demonstration would insure that they would receive future profitable government contracts, eliminating competition from the Southern Route (Hafen 1926).

Several stations were constructed at points across the resource area (Appendix A) in order to provide fresh mounts for the riders. Each of these sites are historically significant since they mark the inception of Caucasian occupation of the area. Furthermore, several station locations developed into ranching centers which are still in use today, marking continuous occupation for nearly 120 years. For additional information on specific stations, see Mason (1976).

The Overland Mail and Stage Company, run by John Butterfield, commenced service across the resource area (Figure 3) in March 1861, several months before termination of the Pony Express. Russell, Majors and Waddell failed to obtain the mail contract, but did demonstrate the utility of the route. Congress, in awarding the contract, ordered that the Southern Route should be discontinued.

The Overland Stage route largely followed that of the Pony Express and many stations served both enterprises (Appendix A). With the development of Austin as a population and business center, it was included in this service (Angel 1866). As Austin grew, so did business along the route. For example, Angel reports that, in 1865, 5,840 passengers were carried between Virginia City and Austin and that 7,620 tons of freight were hauled between San Francisco and Austin at a cost of $1,381,800 (1881:467).

Several authors have described early travel in Nevada, but few are more vivid than Browne.

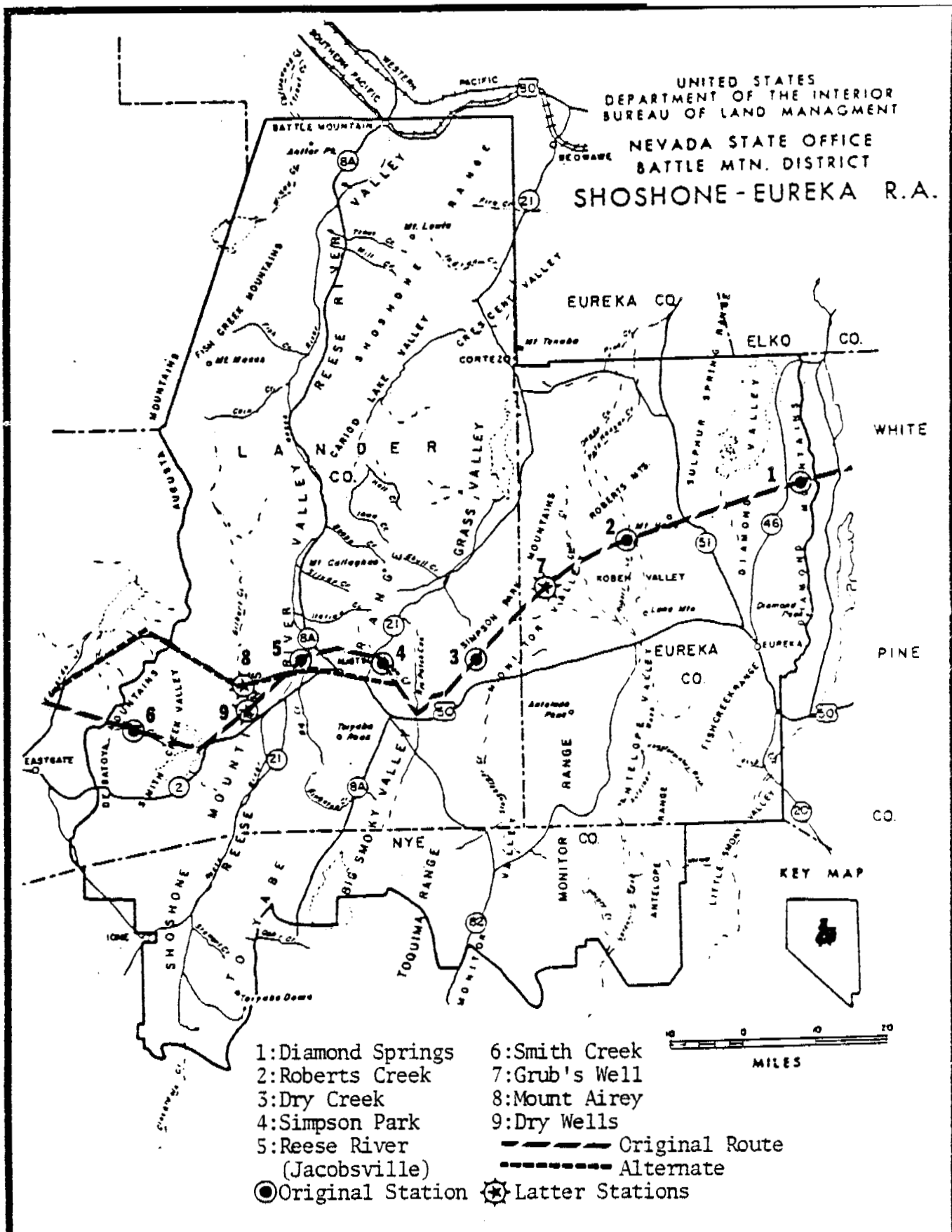

Figure 3. Routes of original Pony Express and Overland Mail across the resource area.

> A trip to Austin is something to look back upon with pleasure in after-life. It is always a source of happiness to think that it is over; that there are no more gnats and alkali-clouds to swallow; no more rickety and forlorn stations to stop at; no more greasy beans and bacon to pay a dollar for; no more jolting, and punching, and butting of heads to be endured on that route, at least. And yet it has its attractive aspects; the rich flood of sunshine that covers the plains; the glorious atmospheric tints that rest upon the mountains, morning and evening; the broad expanse of sage-desert, so mournfully grand in its desolation (1871:467).

Once the transcontinental railroad was completed in 1869, the Overland Stage lost its lucrative federal mail contract and went out of business (Conkling and Conkling 1947). Stage and freight service continued, however, as a multitude of businesses operated lines to various mining centers. This is evidenced by the host of historic roads which cross the resource area. Although little is known about early freighting and transportation, they certainly represented a significant historical industry. Without a means of hauling bullion, for example, the wealth of Austin or Eureka could never have been realized.

The use of camels represents an unusual aspect of Austin's transportation system. These animals, purchased from army survey parties, were mainly used to haul salt. Since they terrorized local livestock, the camels were kept off main street (Smith 1963).

Physical evidence for various transportation systems is still visible. Many old stage roads can be followed between extinct and historic communities. Others, which are not visible, can be traced on historic survey plats. Pony Express and Overland Stage stations can be identified, although their state of preservation varies considerably. Several of these structures still stand but the majority consist simply of partial rock walls (Mason 1976).

At least one additional communication system may have been used in the resource area. This is represented by the ruins of a possible heliograph station on Mount Callaghan which appear similar to those of the known station on Wheeler Peak. Additional research is needed to confirm the reality of the Mount Callaghan station.

MINING IN SHOSHONE PLANNING AREA

1. The Austin Area and Reese River District

The history of mining in the resource area begins at Pony Canyon near what would become Austin, Nevada (Fig. 4). William Talcott, working for the Overland Stage at Jacobsville, collected an ore sample from the canyon in May 1863 (Angel 1866). Assayed in Virginia City, the rich ore initiated a tremendous rush and dramatic population increase. Characteristic of this period is the description of the 'Reese River Excitement' by Browne (1871):

The original excitement generated an extensive amount of mining activity. Both the establishment of claims and construction of mills became legion. Over 1,000 mining claims were quickly located in the Austin area, although many of these were soon abandoned (Smith 1963). Nevertheless, litigation developed because of complex ore-bearing vein structures and because claims were so closely placed.

The first stamp mill was built by David Buell and Mr. Dorsey in 1863, and within a few years twenty-nine reduction mills were operational. Initial treatment of chloride ores by amalgamation proved profitable, although sulfide ores were more difficult (Smith 1963). The process, as practiced at Manhattan Mill, involved a series of steps. After a rough crushing, the ore was reduced by heavy stamps in order to pass through 40 mesh metal cloth. This fine ore was directly introduced into furnaces with roughly 12 percent salt which served as a flux. The Manhattan furnaces accommodated 1,000 pounds per firing. During the roasting period the charge was continually stirred and almost a whole cord of wood was required per day for each of ten furnaces. The total daily wood requirement, however, was 18 cords as the mill included a steam engine. Upon removal from the furnaces, the treated ore was transferred to a wooden pan for amalgamation. This process involves wetting, agitation and finally the addition of mercury. Following these procedures, the mill obtained a yield of 85 to 90 percent (Emmons 1870). The end product of this process was fine-grained tailings, rather than slag heaps.

By the close of 1865, the Reese River Excitement had generated an estimated 60 mining districts (Figure 5) throughout the region, representing approximately 20,000 claims (Vanderburg 1939). There were 6,000 claims in the Reese River District alone while the Austin area kept pace with 500 (Vanderburg 1939). This chaos was gradually reduced as the Manhattan Silver Company, a New York Corporation, systematically acquired most mining properties in the Austin vicinity, including Lander Hill, Amador, and Yankee Blade (Goodwin 1966). Allen Curtis led this program until 1870 when Melville Curtis became superintendent. This company dominated the mining scene and produced more than $19,000,000 (Lincoln 1923) during its twenty-two year existence, although this production figure may be exaggerated (Table 1; Couch and Carpenter 1943). The importance of the company to Austin's economy is indicated by the employment figures for 1884 (when mill productivity was actually declining). Over 700 men, employed in various capacities, received a monthly payroll of roughly $22,000 (Goodwin 1966).

Mining, however, was not the only important industry in Austin. The community developed a diverse economy and became virtually an industrial city (Shepperson 1970) as well as "a trading and commercial center, not only for nearby mining districts but also for mining camps as far away as Elko and Lincoln Counties" (Mordy and McCaughey 1968:98). It appears that this economic diversity represents Austin's real contribution to mining development in Nevada. Development at Austin not only initiated settlement in an almost unpopulated region, but the community also served as an oasis for prospectors and other miners.

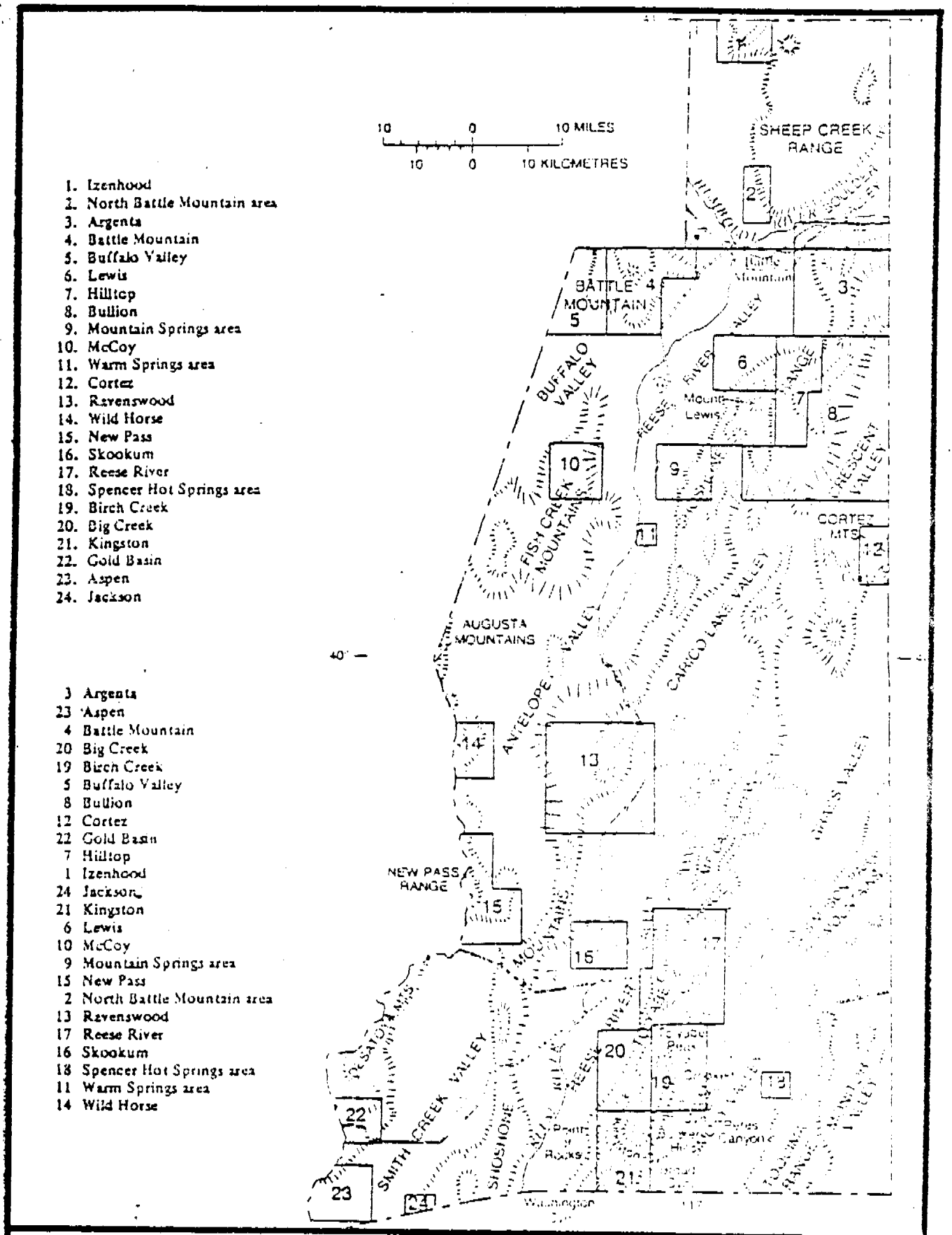

Figure 5. Mining Districts located in Lander County of Shoshone Planning Area.

Table 1. Production Figures from Shoshone Planning Area.

DISTRICT	PERIOD OF PRODUCTION @	PRODUCTION FIGURES*	PERCENT TOTAL
Argenta	1934-1940+	$ 254,563	0.74
Battle Mountain	1871-1883 & 1902-1940+	4,825,080	14.12
Bullion	1869-1889 & 1933-1940+	450,369	1.32
Cortez	1867-1939	6,375,839	18.66
Gold Basin	1912	1,226	0.02
Gold Park	1936	3,061	0.01
Hill Top	1912-1940+	424,669	1.24
Kingston	1865-1871 & 1937-1939	18,726	0.05
Lewis	1876-1890 & 1913-1940	3,188,805	9.33
McCoy	1929 & 1940	56,270	0.16
Millett	1864- ?	?	--
New Pass	1935	450	0.00
Reese River	1865-1940+	18,494,209	54.13
Tenabo	1936-1938	10,173	0.03
Twin River	1875-1890	54,548	0.16
Washington	1867	476	0.00
TOTAL		$ 34,164,464	100.00

@ Based on Couch and Carpenter (1943); production may have been intermittent for some periods.
* Based on Couch and Carpenter (1943); represents reported production figures only.
# Production may continue beyond 1940.

Advertisements in the 1866 Austin City Directory are indicative of the town's varied economy; according to Harrington, 1866, these include the following: grocery stores: twelve; clothing stores: eight; shoe stores: six; hardware stores: seven; dry goods: three; wine and liquor: twelve; saloons: five; barbers: three; banks: four; stationary stores: three; assay offices: four; and finally, three druggists. In addition to these business concerns, the community was served by thrity-two lawyers, nine doctors and five clergymen (Smith 1963).

Austin continued to grow and by the late 1860's reached its peak population of approximately 8,000 (Smith 1963). Instrumental in this development, the Reese River Reveille began publication in May 1863 with financial help from townspeople (Smith 1963). Behm quotes editor Phillips about the need for early printing of this newspaper:

> ...The mere fact of having a paper published in any silver region, gives confidence to capitalists and goes far toward securing their aid in developing the same. Nobody can doubt the permanency of our mines if, thus early, the mines are able to sustain a newspaper (n.d. 3).

By 1872, there were only two mills operating in Austin with the Manhattan being the most productive. The Manhattan operation had replaced old reverberatory roasting techniques with newer and more efficient Stepefeldt furnaces. This mill received shipments of ore from as far away as 75 miles because the new furnaces proved so economical (Smith 1963).

Complaints about diminishing ore began surfacing in 1869 (Ross 1953). Finally, with steadily decreasing output, the Manhattan Mining Company suspended operations in 1887 (Goodwin 1966). However, after several corporate reorganizations, the Austin Mining Company was formed in 1891, headed by Anson Stokes. The new organization began construction of a drainage tunnel from Clifton to the mines of Lander Hill. Work continued on this 6,000 foot project for several years, although it was never actually used (Goodwin 1966). The company also faced a series of setbacks which culminated in 1898 when operations were suspended.

Many problems faced by the Austin Mining Company were common to the West as a whole. According to Goodwin (1966), several national political decisions had a dramatic effect upon the country's and Austin's economy. The demonetization of silver in 1893 followed by the 1896 defeat of Presidential candidate, William J. Bryan (free coinage of silver advocate), was disasterous to the industry. Since government controls were no longer in force, the price of silver continued to plummet (Ross 1953). Mining production slowed: 5,848 tons of ore were processed in 1893 compared to only 402 tons in 1895 (Couch and Carpenter 1943:75). Austin's population correspondingly dwindled from approximately 2,000 in 1893 to less than 1,000 in 1896.

The final blow was delivered by Superintendent P. T. Farnsworth. After an audit by Tasker Oddie, it was disclosed that Farnsworth had embezzled an estimated $300,000 from the Austin Mill by delivering bullion to his Utah mines. This proved to be the last straw and, as a result, the company's holdings were either dismantled, sold, or blown up (Goodwin 1966). Sporadic production continued through 1903, but dropped below $100,000 in 1904 and never passed this mark again, at least through 1940 (Couch and Carpenter 1943).

2. The Battle Mountain District

The Battle Mountain District (Figure 5) was the third most prolific historic mineral producer in Shoshone Planning Area (Table 1). According to Couch and Carpenter (1943:73), nearly $5 million was extracted from the district between 1871 and 1940; post-1940 production has exceeded $45 million (Stager 1977). Silver was discovered in 1863, but mining was not initiated until 1868 with the founding of Battle Mountain near Copper Basin.

The communities of Copper Basin, Galena and Copper Canyon were established by approximately 1869 (Goodwin 1966). Initial activity in the district produced at least 32 mines, two smelters, and one mill (Stager 1977). Interestingly, 40,000 tons of hand sorted ore were shipped to Swansea, Wales, via the Pacific

Coast as ship ballast, since the primary property, the Battle Mountain Mining Company, was owned by English companies (Lincoln 1923).

Galena was the most productive location during the early history of the district. Lincoln (1923) estimates that over $4 million was produced in the area. Built by a British mining company, Galena was systematically developed and "had its own town water system, a respectable business district, a public square, a town hall, parks, and a good hotel" (Goodwin 1966:21).

Joining with Unionville, Galena attempted to push through legislation which would split existent Humboldt County. Each community hoped to be designated as permanent county seat for its respective portion, leaving the rapidly growing Winnemucca out in the cold. When this scheme failed in 1874, a small section of Humboldt County, including the Battle Mountain Range, was ceded to Lander County in order to appease Galena (Goodwin 1966).

The output of all mining properties in the district began to slacken by the late 1870s and production essentially ceased after 1885. Mining interest was revived, however, when copper interests in Copper Basin and Copper Canyon were acquired by the Scottish firm, Glasgow Western Exploration Company (Stager 1977). Production was initiated in 1910, but proved unsuccessful and the mining interests changed hands. Several additional ownership changes occurred before Duval Corporation acquired both mining areas in 1967 and eventually became the third leading copper producer in the state (Stager 1977).

Several additional mining communities were located in the district. Brief gold flurries occurred around 1909 at Bannock in Philadelphia Canyon and at Telluride at Rocky Canyon. The discovery at Bannock, primarily placer in origin, created a mild boom. Nuggets as large as three and one-half ounces (Vanderburg 1936) were recovered, although mining activity soon ceased.

3. The Lewis District

Most of the mines of this district are located in Lewis Canyon of the Shoshone Range (Figure 5). Historically, Lewis District was the third leading producer with 9.33% of the total Shoshone Planning Area production through 1940 (Couch and Carpenter 1943). Silver was first discovered in the area by Jonathan Green and E. J. George in either 1867 (Vanderburg 1939) or 1874 (Angel 1881). Production was initiated in 1876 with the construction of mills for the Eagle and Star Grove mines. The latter mine is noteworthy since the community of Dean developed at the site, remnants of which are visible today.

The main community of Lewis developed at the mouth of Lewis Canyon. Additional habitation areas occurred further up the canyon and were known as Middle and Upper Lewis, respectively. By 1880 the population reached roughly 800, including a Chinese community (King 1954). The town was large enough to support a school, stores, newspaper (Lewis Herald), jail, hotel, post office, saloons, and dance halls (Folkes 1964; Stager 1977).

There was sufficient interest and confidence in the mines for the construction of a short spur from Nevada Central Railroad up Lewis Canyon. Unfortunately, the line quickly ran into trouble and closed in 1882 after operating for approximately one year. The line was briefly reopened due to renewed mining in the late 1880s but was eventually dismantled in 1890 (Myrick 1962).

A series of violent setbacks contributed to the town's decline. Firstly, a fire destroyed most of the business district in Lower Lewis. Secondly, in 1882, a violent boiler explosion at nearby Betty O'Neal mine wrecked most of the mining equipment (Stager 1977). After these setbacks, declining mineral productivity (Couch and Carpenter 1943) did not warrant reopening a marginal operation.

A mining revival occurred in 1922 when Noble Getchell resumed operations at Betty O'Neal mine. A 100 ton flotation mill proved profitable and a mining camp developed at the site, although most businesses remained at or near Battle Mountain (King 1954) which was within easy reach of the camp by automobile. Over $2 million was recovered between 1928 and 1929, but operations soon shut down as ore quality and silver prices declined.

The communities of Pittsburg, Hilltop and Mayesville are also located in this general area of the Shoshone Range, although they lie in the Hilltop District (Figure 1). The Hilltop mines were the most productive and supported a business district and newspaper earlier this century (Folkes 1964).

4. The Cortez District

This district, located in the Cortez Mountains southwest of Mount Tenabo (Figure 5), is important because the mines were early producers in the resource area. Production began in 1863, shortly after discovery by a group from Austin. The area was allegedly first mined by Mexicans (Paher 1970:165), but this has not been verified. Listing results under Eureka County (where the mines are located), Couch and Carpenter (1943) indicate that over $6 million was extracted from the district Table 1).

The mine was originally developed by Simeon Wenban and ore was shipped to Austin before a mill was erected at nearby Mill Canyon. Even then processing was difficult. According to Paher (1970), mule pack teams carried ore eight miles between mine and mill. Production continued for most years until 1886 at which time a new mill was constructed (Reichman 1967). The ruins of this mill are presumably those currently visible at the townsite of Cortez. The introduction of the new mill marked the most prolific mining period for early Cortez. Nearly $2 million was recovered during the ensuing five years. Reported output gradually declined and after several ownership changes, operations were terminated in 1936 (Vanderburg 1938).

5. Miscellaneous Mining Districts

As indicated earlier, the "Reese River Excitement" produced a tremendous amount of interest in Central Nevada. Prospectors combed the hills in search of silver deposits and many short-lived mining camps were established (Figure 5). Several

camps were prosperous enough to develop into small towns and even had their own ore-processing mills. Birch Creek and Big Creek are examples of such camps, but none survived for more than five years. Known historic mining areas are depicted in Figure 5 and listed in Appendix C.

Physical evidence for these camps and the above-mentioned communities varies considerably. Austin is the best preserved city, in part, because of its size, but also because people still live there. Listed on the National Register of Historic Places, Austin receives protection under the Historic Preservation Act of 1966. Numerous brick buildings and evidence of mining activities are particularly noteworthy.

Most other historic mining sites are not as well preserved as Austin. They range from absolutely nothing to groups of tumbled down buildings, associated with machine parts, mining shafts and tailings dumps. Several reasons exist for this lack of preservation. Firstly, the miners, themselves, were efficient scavengers. Several reports indicate that entire ore-processing mills were often transported to other more promising areas when existing ore bodies played out. Other structures were also moved when the need arose. The International Hotel of Austin, for example, was disassembled and shipped from Virginia City (Angel 1866). Secondly, several communities never amounted to more than short-lived tent cities and little physical evidence would be expected to survive at camps where substantial structures were not raised. Thirdly, the passage of time adversely affects historic, as well as prehistoric, resources, weathering and erosion causing displacement and decay. Fourthly, modern relic collectors remove items of interest, thereby reducing the integrity of historic sites. Finally, damage to buildings and other structures has been caused by indiscriminate vandalism at historic sites throughout the resource area.

MINING IN EUREKA PLANNING AREA

1. Eureka District

The history of mining in the planning area is dominated by the Eureka District (Figure 6). Reported production exceeds $52 million (Table 2), accounting for over 98% of all mineral wealth from mines within Eureka Planning Area (Couch and Carpenter 1943). Actually, larger estimates have been made, ranging as high as $95 million (Vanderberg 1939) and $110 million (Paher 1970). The smaller figure, however, is reliably documented in state and county records Couch and Carpenter 1943), whereas the larger ones are unsubstantiated. Other important mining concerns, such as Mineral Hill, Safford, and Buckhorn, lie within Eureka County but outside the scope of this study.

Silver-bearing ore was first discovered by a prospecting group working out of Austin in 1864. Original amalgamating techniques, successful with Austin's chloride-based ores, were ineffective at Eureka because of the high lead content of its ores. Consequently, interest in Eureka waned until 1869 (Table 3). During this year Major McCoy purchased a previously unsuccessful smelter and

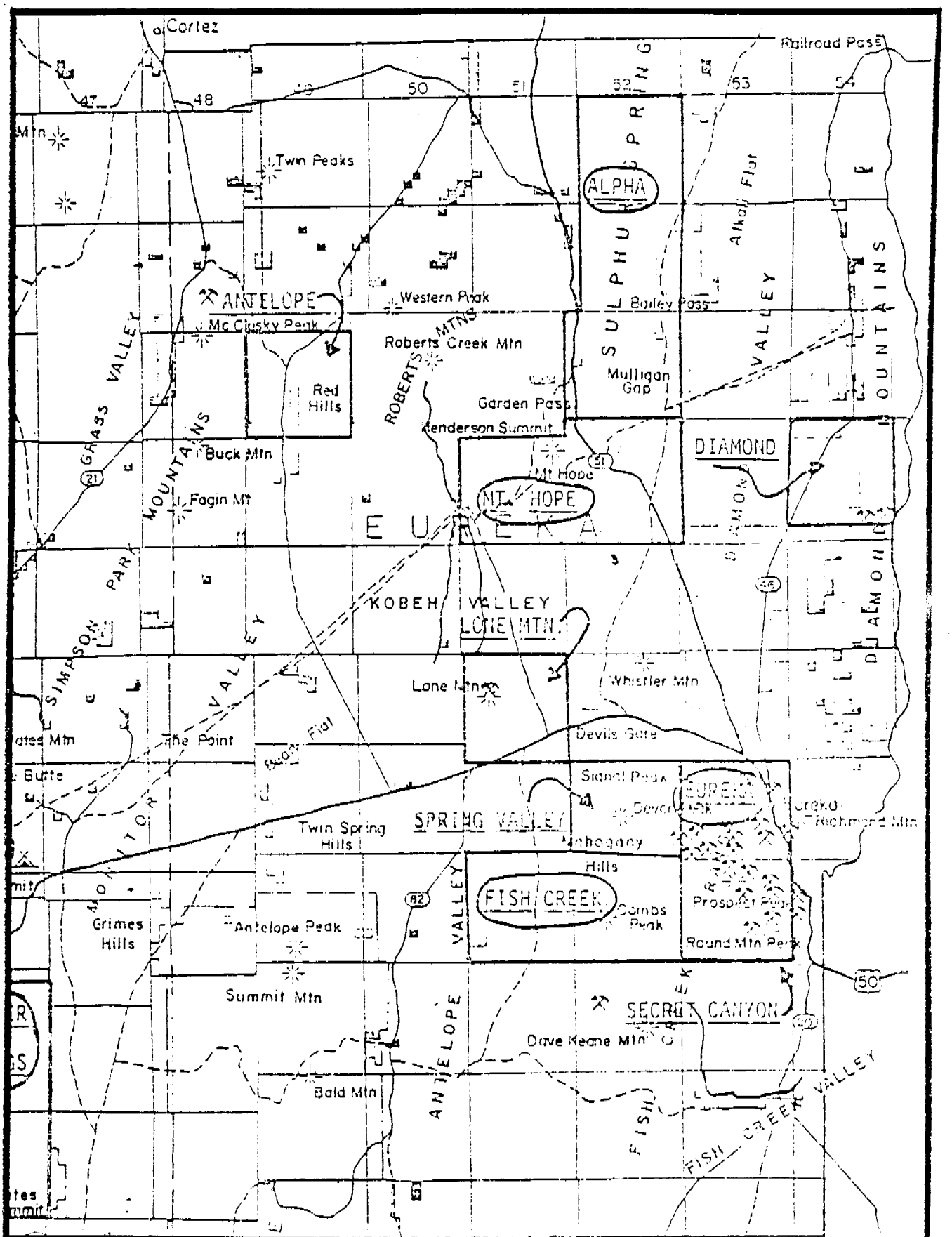

Figure 6. Eureka Planning Area mining districts.

1869 also saw the discovery of ore at Ruby Hill by Cornish miners who "built a brush fence marking and defining their claims...and, subsequently, when the ground had become valuable, patrolled their boundary line with loaded rifles to keep off encroaching locators" (Molinelli 1879:19). These initial discoveries by Alonzo Monroe, M. G. Clough, and Owen Farrell formed the nucleus of the Eureka Consolidated Mining Company, organized in 1870 (Vanderburg 1938). A year later, the Richmond Consolidated Mining Company was organized adjacent to the Eureka Consolidated. These companies dominated the mining scene around Eureka (Figure 7) for the next twenty years and together accounted for a production of over $34 million (Couch and Carpenter 1943).

With each company smelting its own ore, health problems soon became a major concern. According to Reichman "the fumes that belched from the stacks of Eureka furnaces hung in the canyon, creating poisonous gases which would often make residents sick" (1967:69). In 1871, Eureka received its infamous nickname "The Pittsburg of the West" because of air pollution which even killed vegetation in town. Apparently, the exhaust fumes included sulfur dioxide and oxides of tellurium and arsenic as well as other noxious gases (Young 1970). The problem abated somewhat when both major smelters constructed large chimneys up to ridge tops where stronger winds carried fumes away (Reichman 1967). However, the problem presumably continued since, by 1879, the number of smelters in Eureka reached sixteen.

As happened several times throughout the state, once a mining boom settled down to steady growth, a new county was formed. A stable community far away from an established population center required the Government services which only a county seat could provide. Additionally, the state legislature may have been encouraging settlement in the Nevada wilderness by promoting new county formation. Accordingly, Eureka County was formed in March 1873 over the protests of Austin, and Eureka was designated as county seat.

The town of Ruby Hill developed around mine operations approximately two miles southwest of Eureka. The population exceeded 2,500 people in 1878 and was composed primarily of miners and their families, although a theater, churches, saloons, a business district (Molinelli 1879) and a newspaper, Mining News (Folkes 1964), were also located in the city. Created in 1874, Ruby Hill was annexed by Eureka Township in 1876 (Angel 1881).

If Ruby Hill became the mining center for the district, then, surely, Eureka (Figure 6) was the commercial center. During peak productivity, the population of Eureka exceeded 7,000 people and the town supported over 100 saloons, five fire companies, several banks, theaters, churches, hotels, several dozen gambling palaces, various businesses, and, of course, schools (Molinelli 1879; Ashbaugh 1963; Paher 1970). The town also intermittently supported at least six newspapers prior to 1900, the most important of which was the Eureka Sentinel. Initially published in 1870, the Sentinel is still published today as a weekly.

Eureka was also important as a transportation center for the surrounding area. After 1875, upon completion of the Eureka-Palisade Railroad, the city "became the depot of all wagon transportation and freight and passenger traffic to the different mining camps lying south of it" (Molinelli 1879:13). Because of mining and transportation interests, Eureka soon became second in importance only to the Comstock (Vanderburg 1939:10).

Eureka was noteworthy in other ways. The country's first "apex" legal case was initiated by the two mining giants, Eureka Consolidated and Richmond Consolidated. Their court battle, which was ultimately decided in the United States Supreme Court, involved extralateral mining rights as defined in the 1872 Mining Law. This legislation afforded a company the right to follow mineral veins or ore bodies from their surface location or "apex" even if the mining extended laterally beyond the vertical limits of the original claim (17 Stat 91). The company with the initial claim receives priority for ore extraction even when the ore body travels beneath the claim of another company.

The Eureka Consolidated and Richmond Consolidated fought over the same bonanza ore body, Potts Chamber. Conflict arose because both companies owned adjacent surface mining claims. The courts decided in favor of Eureka Consolidated, basing the decision on the apex principle described above and on a compromise geometric plan established in a previous legal suit between the two companies. Eureka Consolidated received a settlement of $100,000 and a small piece of land, but not the $2.5 million originally demanded (Reichman 1967).

After 1885, production figures began to drop and most mining activity was conducted by lessees whose ores were processed in existing smelters (Lincoln 1923). The decline of silver prices (Appendix B), combined with increasingly high operating costs, finally contributed to closing the Richmond Smelter in December 1889 and the Eureka works in 1891 (Vanderburg 1938).

A brief revival of mining activity occurred in 1910 when both companies were acquired by the U. S. Smelting, Refining and Mining Company and were incorporated into the new Richmond Eureka Mining Company (Lincoln 1923). Mining properties were refurbished and shipments of ore were sent to smelters near Salt Lake City creating a brief period of prosperity in Eureka. Then, in 1910, operations were once again terminated as the Eureka-Palisades Railroad was washed out, eliminating the sole source of ore transportation. This setback virtually destroyed the economic revival of Eureka. Desultory mining has, however, continued throughout this century by various mining organizations.

2. Miscellaneous Mining Activity

Several small, short-lived communities developed in the vicinity of Eureka following successful smelting in that district. Prospect and Vanderbilt were organized within the Secret Canyon District in the early 1870's. Vanderbilt reached a population of over 100 supported by stores, boarding houses, post office and a blacksmith shop (Paher 1970).

The Vanderbilt mines were never really productive, however, and the post office closed in 1873 (Frickstad et al. 1958). Vanderbilt was incorporated into Eureka township in 1876 (Angel 1881). Activity resumed in the 1880's under operation by the Geddes mine, but was never profitable. Little information is available for Prospect, although it managed to maintain a post office until 1926 (Frickstad, et al 1958).

The Eureka Planning Area also supported various additional mining districts and camps. Most of these, however, were only moderately successful and miners were usually attracted to the more profitable opportunities available at Eureka. The location of these districts is depicted in Figure 6 and listed in Appendix D.

RAILROADS

Two major narrow gauge railroads crossed the resource area, connecting the main mining towns of Austin and Eureka with the Central Pacific Railroad. The need for inexpensive transportation increased in these communities as mining developed. Both railroads were constructed with the aim of hauling ore and essential supplies, although only one, the Eureka Palisades, was able to capitalize on the mining boom. The Nevada Central, completed in 1880 from Battle Mountain to Austin, missed the main boom period and was never very profitable.

The history of the Eureka Palisades Railroad roughly parallels that of the local mining industry. Construction for the narrow gauge railroad began in November 1873 and reached Alpha by January 1875 (Goodwin 1966). A short-lived town developed at this station until the line was completed to Eureka (Goodwin 1966).

The E&P reported quick profits and prospered for ten years until 1885. Indeed, in 1880, the owners reported total profits of $248,232.94, a 15.3 percent return on their initial investment (Angel 1881:285). During the same year, the railroad reported assets which included five locomotives, two coaches, two cabooses, two baggage cars, 21 box cars, 95 flat cars, and 10 hand cars (Angel 1881:285).

As mentioned earlier, the mining boom in Eureka dwindled in the late 1880s and by 1891 both major smelters, the Eureka and Richmond, closed down and were sold as scrap iron. The E&P Railroad fared only slightly better. It entered into receivership and was declared bankrupt on June 13, 1900. The line was then purchased by Mark Requa (a former manager), I. W. Hellman, and J. H. Moulton for $300,000 (Myrick 1962:100), a small price compared to the $1,500,000 spent to originally construct the railroad.

Under this new ownership and with a brief mining flurry around Eureka, the railroad once again prospered. However, a major flood during 1910 washed out over 11 miles of the track. Myrick (1962) reports that a gigantic lake formed at this time stretching from Palisades to a point over 30 miles south. With no avenue for shipping ore, the local mines were once again forced to close.

After this setback the E&P went through a series of complex corporate changes. In a move to take over the inoperative railroad, the combined Richmond-Eureka Mining Company forced the route into receivership and attempted to purchase the line for approximately $77,000 (Myrick 1962:107). In a surprise move, however, George Whittell, a major stockholder of the former company, rescued the corporation by purchasing the railroad. Service reopened to Eureka on May 6, 1912, as the line was leased to and became operated by the Nevada Transportation Company (Myrick 1962:107). The new owners provided triweekly runs between Eureka and Palisades under the direction of the colorful John Sexton (Myrick 1962). After recurrent deficits the railroad was finally abandoned and dismantled on September 21, 1938.

The Nevada Central Railroad was completed February 9, 1880, in a flurry of activity which culminated in a late night meeting of the Austin Common Council for the purpose of expanding the city limits. A $200,000 bond issued five years earlier, required the completion of the railroad to Austin by the above date for collection (Goodwin 1966: Myrick 1962).

Conceived by Michael Farrell, plans for the railroad were initially developed in 1874. After being elected to the State Legislature, Farrell was able to pass legislation (over Governor Bradley's veto) insuring the $200,000 bond (Angel 1881: Kneiss 1943). During the ensuing five years, he was active in researching existing narrow gauge railroads and in trying to attract prospective builders.

On August 30, 1878, with less than six months remaining on the bond, the New York Phelps Stokes Company agreed to finance construction (Goodwin 1966). Grading and track laying soon began in earnest under direction of J. A. Blossom, a prominent Battle Mountain citizen. Originally scheduled for completion by December 31, 1879, construction was delayed by a series of labor disputes, material shortages, and inclement weather which ultimately required Austin's eleventh hour decision to save the bond (Goodwin 1966; Kneiss 1943; Myrick 1962).

With the mines of Austin already on the decline, the railroad never really had the opportunity to match the profits of its counterpart in the resource area, the Eureka-Palisades Railroad. Correspondingly, the railroad suffered a series of corporate changes, and a washout coupled with increasing highway travel and shipping finally led to abandonment on January 31, 1938.

Several other short, ancillary railroads were constructed within the Resource area. Associated with the E&P, the Ruby Hill Railroad carried ore from the Eureka Consolidated mines at Ruby Hill to the smelter in Eureka Canyon (Myrick 1962), a distance of only several miles.

The community of Austin developed a similar line, referred to as "Mules Relief." Originally pulled by eleven mules until a satisfactory steam engine was purchased, the line ran from Clifton up Pony Canyon and into Austin. The line ran from 1880 to 1889 (Myrick 1962) and was also primarily used for hauling ore.

The final railroad under consideration is the Battle Mountain & Lewis Railway. Starting at the Lewis or Galena Junction, the line crossed Reese River Valley and wound its way partly up Lewis Canyon. Completed in 1881, the arrival of the railroad helped spur the initial boom at Lewis. However, as the mineral deposits proved to be less extensive than expected and people deserted the town, the railroad ceased official operation in June 1882, just over one year after it opened (Myrick 1962).

Physical evidence for these railroads is limited. Each of the short spurs has been either destroyed by subsequent highway construction or is virtually indistinguishable in the field. Considerable evidence exists, however, for the two main railroads. In many places along the line, the roadbed is still visible. Wooden ties and partly demonished bridges are also present, although all steel rails were removed from both lines in 1938 (Goodwin 1966).

The community of Battle Mountain flourished because of railroad traffic. Situated on the Central Pacific Railroad route as a station, the community was originally located at Argenta, just east of the resource area. It moved to its present site in 1869 in order to be closer to ore traffic from Austin. The town was named after a mining community located in Copper Basin which, in turn, was named after an Indian skirmish in the area (King 1954).

Transportation through the town provided the impetus to the development of various service businesses. Stores, hotels, a brewery, newspapers, banks, and saloons were established for travelers. With the completion of Nevada Central Railroad, Battle Mountain took on added importance as a station house for the line. Not only were engines stored there, but individual cars were also built at the facility (Myrick 1962).

In later years, the history of Battle Mountain continued to parallel the booms and depressions of the local mining industry. Early in the Twentieth Century, Battle Mountain served as a supplier and shipping center for various mines. Today it enjoys much the same type of economic base.

RANCHING

Little information is available concerning historic ranching within the resource area. Unfortunately, little has been written on the subject, most data being derived from oral interviews of early residents. Limited information exists in various historic newspapers and other public documents, beyond the scope of this report.

The earliest ranches developed around Pony Express and Overland Stage stations. The need for fresh mounts and refreshments for travelers encouraged the development of ranching. According to Angel (1866), each Overland station maintained between 8 and 12 horses. Feed for "each set of eight horses per annum (was) 50,000 pounds of barley and forty tons of hay" (1866:59). While some of this feed was provided by the company ranch in Ruby Valley (Angel 1881), large amounts of forage were obtained locally. Surely, the production of feed encouraged development of agriculture along with early horse and cattle ranching. Several modern ranches are located at, or in the vincinity of, early stations, indicating continuous operation for nearly 120 years. These ranches include those located at Diamond Springs, Roberts Creek, Dry Creek and Smith Creek.

As with many other business enterprises at that time, ranching developed in response to an increase in mining. As population centers developed, the market for fresh meat, produce and feed correspondingly increased. To underscore this point, in quoting his brother Ferris, Andrew Crofut of Diamond Valley states:

> When the mines of Eureka were in their top production period, everything had to be done by horse power. And horses had to eat, so there was a big demand for the hay and grain that was grown about seventy-five miles to the north of Eureka, in Mound Valley and Ruby Valley (1970:43).

Again, local demand presumably encouraged local production. Reported cattle production reached an early high during the years 1876 through 1878, when over 20,000 head were present in Lander County. The top figure for Eureka County prior to 1880 exceeds 13,000 in 1873 and 1874 (Angel 1881:139).

Large scale cattle production in Nevada started within the resource area. According to Goodwin (1966), Lewis Bradley, who later became governor (1878-1879), began extensive operations in Upper Reese River Valley during 1862 with two partners. Thousands of Texas Longhorn cattle were imported and ran as far north as Italian Canyon and east to Birch Creek (Goodwin 1966:27). Other large, historic cattle operations include ranches run by Joe Dean in Crescent Valley and George Crum in Reese River Valley around Battle Mountain.

Apparently at one time range conditions were able to support large herds. Early views of forage potential were optimistic as indicated by Molinelli:

> There is, however, an abundant growth of white sage and bunch-grass in nearly all parts of the county, affording excellent pasturage alike for winter and summer. The grazing interest is steadily growing (1879:8).

Examination of historic survey plats supports Molinelli's statement. Areas noted as 'white sage flat' or 'dense bunch grass' can be observed on the

survey plats dating back as far as 1867 (Tracy 1867). That such areas are today covered by sagebrush (Figure 8) may indicate early abuse by cattle or sheep operations.

Wren (1904) believes that Nevada ranching interests have been historically encouraged by tje state legislature. Upon admission as a state, Nevada received two sections per township for schools, contingent upon reliable survey (Nevada Enabling Act 13 stat 30). Unwilling to wait for such a survey, Nevada legislature asked for, and received, a flat grant of 2,000,000 acres (21 stat 288) at locations of its choosing. The majority of this acreage was allocated to stockmen who selected areas around various water sources.

> The result (of stockmen selecting this land) has been that while Nevada has today 60,000,000 acres of public land, there is not a quarter section of it on which a rancher can make a living, without irrigation. Thus it is that the land granted to the state for educational purposes only, by the manner it was disposed of, practically ruined the state for homesteaders (Wren 1904:158).

Other federal acts have encouraged settlement in the West. Of particular note are the Homestead Act of 1862 and Desert Land Entry Acts of 1877 and 1891. Many ranch operations were initiated under this legislation, although most such endeavors eventually went out of business.

Sheep ranching also played an important role in the history of the resource area. As early as the 1850s, large scale sheep drives traversed Nevada (and possibly the resource area) from the southwest into Sacramento, California (Hazeltine et al. 1961). Kit Carson is the most notable person who trailed sheep through the state. His herds ranged in size from 6,500 to 13,000 head.

Sheep totals are reported on a county basis dating back to 1865, although the data may not reflect drives which merely passed through the county. Starting slowly, recorded sheep totals throughout Lander County averaged 28,062 head per year between 1873 to 1880 (Angel 1881). Cattle reported for the same period averaged 14,463 head. Sheep totals for Eureka County were somewhat lower during the same period. The usual practice of allowing large herds to roam across public land created animosity between cattle ranchers and sheep herders (Georgetta 1972). Several disputes ended in violence, but anti-sheep legislation was probably more effective against sheep use (Goodwin 1966). Continuing conflicts between the two interests led to establishment of the Taylor Grazing Act in 1934 (Georgetta 1972).

At least two additional ranching types are recognized in the area. Salt farms were located in Diamond Valley (Angel 1881) and Big Smoky Valley (Hatch et al. 1873). Used in the ore reduction process (Young 1970), hundreds of tons of salt were recovered annually from each ranch. The other ranch type is an apparent dairy, Reynolds Milk Ranch, which, according to a historic survey plat for Upper Reese River Valley, was located near Jacobsville. This ranch was possibly used for milk and dairy goods production.

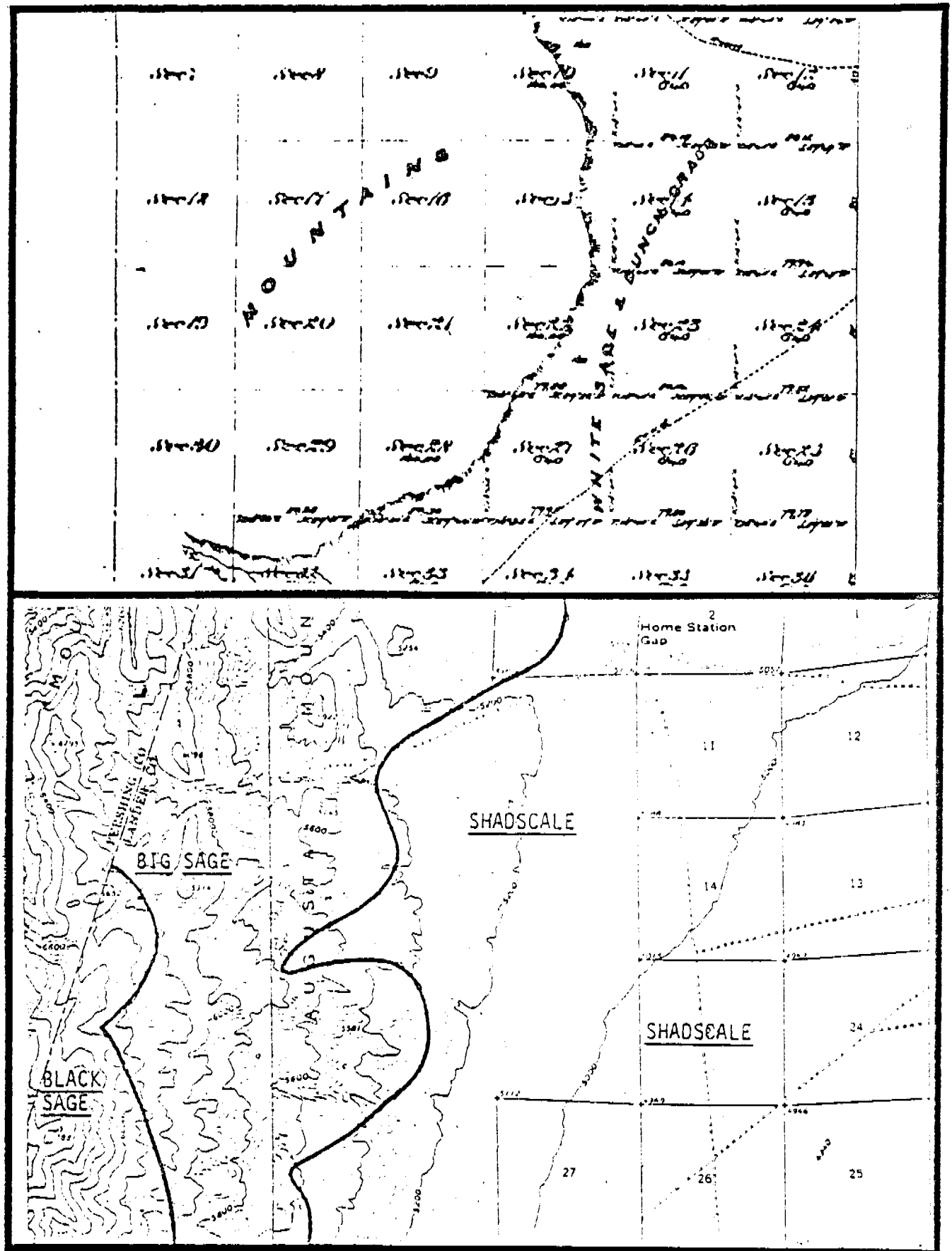

Figure 8. Vegetation changes over past 100 years in T 25N; R 40E: 1875 to 1976. Labels are vegetation types only; other plant species occur in these areas.

Tangible evidence for ranching varies considerably. Many early ranches located along the bases of mountains or along the bottom of well-watered valleys are still occupied. Numerous other operations, however, have been long since abandoned, leaving ruined corrals and partially standing ranch houses.

IMMIGRANTS AND MINORITY GROUPS

The mining booms and depressions which characterized Nevada's history created a mobile and fluid society. The influx of people from various backgrounds resulted in a situation where "a wellknit social structure and meaningful traditions and political forms were unable to keep pace" (Shepperson 1970:2). Economic opportunities and a flexible social framework are reflected in the great numbers of immigrants attracted to the state, particularly the foreign born.

> Despite Nevada's generally un-European-like terrain and its geographical isolation it drew a unique(ly) high proportion of immigrant settlers. Indeed, in periods of great demographic confusion and mass activity, the foreign born migration outnumbered the American born by as much as ten to one (Shepperson 1970:237).

The ethnic diversity of Nevada's past is indicated by Shepperson (1970) who interviewed immigrants representing 36 nationalities in preparing his book, Restless Strangers. Eureka in 1878 was fully representative of this diversity as shown by an article published in the Sentinel at that time:

> For variety of nationalities, we believe that Eureka is entitled to the palm. We were particularly impressed with this fact yesterday, by noticing a group standing in front of a saloon on North Main Street. There was a native Madagascar, an East Indian, a Spaniard, an Italian, a Chelean, and a man born on the island of Tahiti. In close proximity was a group of Shoshone playing cards, and a Chinaman watching the game. English, French, Scotch, Irish, Slavonians, and Negroes passed... There are representatives from almost every race on the globe residing on the Base Ridge, and we doubt if another town in the United States can show such a cosmopolitan community (1878:2).

The majority of foreign born, however, came from European countries with Italians representing, perhaps, the most numerous immigrant nationality. Around Eureka in 1880, Italians accounted for roughly 14 percent of the population (Shepperson 1970). The total immigrant population in Eureka during this year exceeded 59 percent of the 7,086 residents. This ethnic heritage is reflected in the contemporary range users population, much of which descends from foreign born immigrants who originally settled in the area.

Several nationalities tended to cluster around specific occupations. Basques from Spain or France, for example, have traditionally been sheepherders (Georgetta 1972) while Cornishmen are famous as underground miners (Goodwin 1966). In fact, the population of the mining town of Ruby Hill, adjacent to Eureka, mainly consisted of Cornish miners and their families. And finally, charcoal production was primarily in the hands of Swiss and Italians.

The charcoal burners participated in a famous immigrant incident known variously as the Fish Creek War, Charcoal War, Coal Burners War, or Italian War (Earl 1969). Charcoal, as a main ingredient in the smelting process, constituted a major expense to mine owners. By 1879 the hills around Eureka had been denuded of trees for 35 to 50 miles, adding the expense of transportation to fuel costs (Shepperson 1970). Rail shipments were received from as far away as Pine Valley (Goodwin 1966).

Basic dissatisfaction with their treatment by mine owners, teamsters, and company shop owners, as well as with low charcoal prices, caused the burners to form a union: "The Eureka Coalburners Protective Association" (Earl 1969:54). A total of 1,196 men of the reported 2,000 individuals burning wood joined the organization (Earl 1969). After the mining companies refused to increase the price for charcoal from 27½ cents to 30 cents per bushel, union men effectively shut down charcoal shipments, halting wagons and occasionally scattering charcoal shipments (Earl 1969).

These actions by the association exacerbated anti-coal burner feelings and on August 11, 1879 the governor was requested to send the state militia (Shepperson 1970). Then, on August 18, five burners (2 Swiss, 3 Italians) were killed and at least six others wounded by a sheriff's posse at Fish Creek. None of the posse members were injured during the incident (Earl 1969).

After this encounter, resistance evaporated, although representatives of the Italian Consul at San Francisco investigated the killings. Charges were brought against posse members, but later dismissed by a local coroner's jury (Angel 1881). In part, the poor treatment received by the Swiss and Italian workers during this episode was a result of their social status. According to Earl:

> ...charcoal burning was not an exalted calling. The wages paid to the burners were less than half those received by mine laborers and they were forced to live in crude, ill-equipped hovels or dugouts under the worst imaginable conditions of health and sanitation. In addition, they were generally looked down upon by other workers (1969:55).

Other minority groups also received discriminatory treatment. The Chinese population in the resource area during the mining period was particularly oppressed. According to Carter (1975) Orientals first entered Nevada in 1858 and continued to migrate into the state as employment was available, primarily on railroads. As much as 90 percent of the 10,000 man work force building the Central Pacific Railroad was Chinese (BeDunnah 1966).

Upon completion of the railroad in 1869, the Chinese population in Nevada dispersed to various mining areas throughout the state. Communities were reported at Austin, Battle Mountain, Cortez, Eureka and Lewis (BeDunnah 1966; Goodwin 1966; Paher 1970; Reichman 1967). Hostility and discrimination against the Chinese developed almost immediately because of:

> their color, their different dress, their religion, their ignorance of Christian morals, their opium habit, their obedience to their own laws and lack of respect for the laws of the United States, their servitude to their companies (who brought them to America and indentured them), and their cheap labor. Because of these customs....the Chinese were completely unassimilible (BeDunnah 1966:137).

Feelings against the Chinese ran high in Eureka just as they did elsewhere in Nevada. In his "Important Events of 1876", for Eureka, Angel (1881) reports four separate anti-Chinese incidents. In addition to these discriminatory acts an Anti-Chinese Club was formed in 1876. The objectives of this club, as stated in the Eureka Sentinel were as follows:

> The object of this association shall be the use of all lawful means consistent with the responsibility of American citizens to prevent the further immigration of the Chinese race to the United States: to discriminate in all suitable ways the employment of Chinese labor in any capacity when other labor can be procured; to use all discrimination in our power against the Chinese in all matters of trade and labor; and to use all menas in our power, without violence, to make their immigration hither a hazardous undertaking, and their presence in our midst financial ruin to themselves (Eureka Daily Sentinel 6/25/1876).

Clearly, work opportunities for Chinese were limited. It is uncertain to what extent they were allowed to participate in mining. In some areas, Chinese could placer mine (Vanderburg 1936), but it is certain that they could not hold claims. Usually the Chinese worked at menial tasks in support of mining camps or the larger communities (BeDunnah 1966). Nearly 50 percent of all Chinese males in 1880 were employed as itinerant laborers (Carter 1975). Statewide they worked as wood cutters for charcoal production, but in Eureka County, Italians forced them out of this position (Shepperson 1970; Reichman 1967). The majority of workmen constructing the Eureka Palisades Railroad, however, were Chinese (Hawkins 1979).

Persecution, discrimination and violence continued against the Chinese in Eureka and elsewhere so that the Oriental population statewide decreased by 52 percent from 1880 to 1890. In Lander and Eureka Counties the corresponding decrease was 77.6 and 55.2 percent, respectively (BeDunnah 1966). This reduction was caused by state and federal anti-Chinese

legislation as well as by a concerted widespread anti-Chinese movement in 1886. Perhaps the most infamous Federal Chinese legislation is the Chinese Exclusion Act of 1872. This act suspended immigration and excluded Chinese from becoming United States citizens. A new law in 1874 only strengthened the prohibitions against Orientals and reflected the feelings of a large segment of the population at the time.

CONTEMPORARY NATIVE AMERICAN CONCERNS

The entire resource area is in the historical and ethnographical territory of the Western Shoshone Indians (Figure 9), and is currently included in a lawsuit against the federal government involving 26 million acres of former Shoshone lands. The litigation stems from a 1863 treaty signed in Ruby Valley by Chief Temoak. The plaintiffs contend that this treaty involves only an agreement of "peace and friendship" rather than an actual cession of Shoshone land (Kinghorn et al n.d.). Litigation is still pending.

Two legally established Shoshone centers exist within the resource area. Established in 1917, the Battle Mountain Indian Colony was organized to house Shoshone people from as far away as Beowawe and Iron Point (Inter-tribal Council 1976). Since the colony consists of only 688 acres, self sufficiency through cattle ranching or farming is impossible. Most Battle Mountain Shoshone are integrated into the local economy.

Chairman of the Battle Mountain Tribal Council, Glen Holley, was contacted regarding areas of special significance or cultural value to Battle Mountain Shoshone. Mr. Holley could not identify any specific features, or land forms possessing unique value to his people. He felt that all areas are of equal value to the Shoshone people since any land form or vegetative type is part of a greater whole (Holley 1979).

The Yomba Indian Reservation, formed in 1937, lies in Upper Reese River Valley. Over 4,700 acres were allocated to Shoshone Indians in the area, as a result of their being displaced by the mining boom in Austin and the accompanying influx of white settlers. Today, the main economic activities include raising alfalfa and cattle ranching (Inter-tribal Council 1976).

Mr. Holley was the only Native American interviewed and interviews with other local Shoshone might provide valuable information about the history of white/Indian relations in the resource area.

FUTURE HISTORICAL STUDIES

As previously mentioned, this history is based upon secondary sources. Many primary or original data sources exist which could greatly increase the accuracy of a resource area history. These sources are of two types, formal and informal.

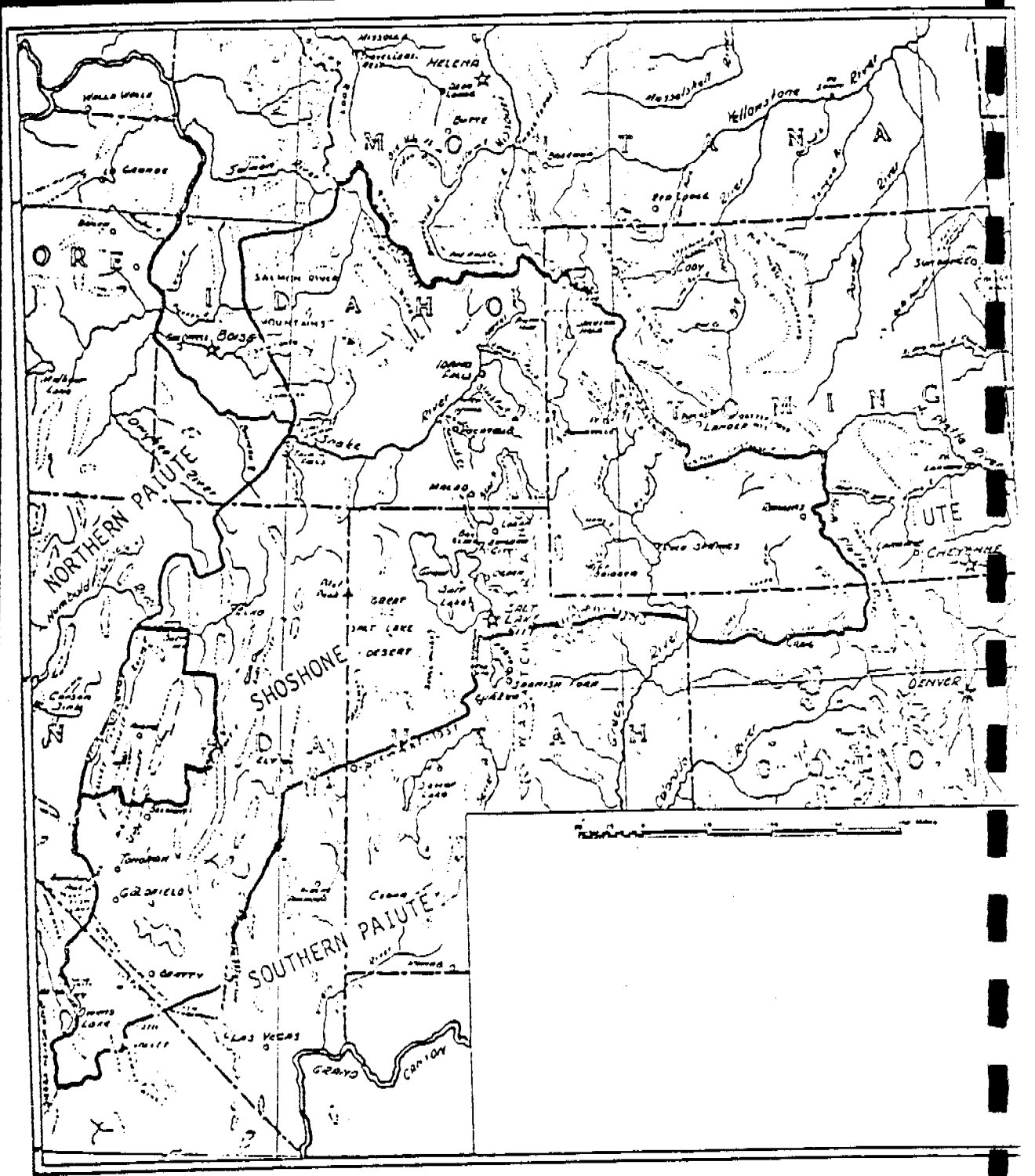

Figure 9. Indian tribal distribution in eastern Great Basin and around Shoshone-Eureka Resource Area. After Stewart (1958).

Formal sources include the official reports of government expeditions and surveys. While reports of the early expeditions usually focused on specific problems, they often included significant observations on such topics as environmental conditions or indigenous Indian populations. Captain Simpson's report, described earlier, is an excellent illustration. Reports prepared by Clarence King and George Wheeler represent early geologic and topographic surveys. Colonel Steptoe and Lieutenant Beckwith submitted papers dealing with their attempts to discover feasible routes across the resource area. Finally, Fredrick Lander constructed the road along the route charted by Simpson and also submitted a report. Each of the above reports may contain valuable information and early descriptions of the resource area could be gleaned from them.

Another formal data source is documents arising from government sponsored platting surveys. These documents include historic survey plats used in the establishment of townships and section subdivisions throughout various portions of the resource area. Dating back to 1867, these plats contain information regarding old roads, ranches, vegetation, and the location of mines and mills. The surveyors' hand written notes provide an important source of supplementary data.

State and county government records are also excellent potential data sources. Once Nevada became a state in 1864, it developed an extensive record keeping system. The biannual Appendix to the Journals of the Senate and Assembly became the official documentation source for Nevada and, as such, contains a wealth of information on a variety of topics. Most state agencies prepared detailed reports which are included in the Appendices. For example, the "Report of the State Minerologist" in the Appendix provides, in addition to other data, detailed lists of mines, mills and districts as well as production figures on a county basis. Other reports are equally detailed.

County records are key sources of information. Police records, tax records, county commissioners reports and documents such as death certificates can yield important information concerning the historic life ways practiced in the resource area (Historical Records Survey 1939). These and various other county documents can provide vivid glimpses of daily activities.

Newspapers are another important formal data source. Printed weekly, and at times daily, newspapers collected and recorded minute changes in community structure and composition. Historic resource area newspapers contain a wide range of information concerning mining, ranching, and social activities. While it is necessary to evaluate such information carefully, local newspapers represent an unparalleled historic data source. Depending upon particular historic research problems they can be valuable aids (Appendix E).

Any future historical research would be greatly aided by an examination of several informal sources. These include personal interviews, diaries, and various corporation or individual papers.

Ranching and livestock operations are the main areas which lack detailed historical documentation. Perhaps the most reliable source of data concerning these activities is the people who conducted them. There are only a few early day residents of the resource area still alive and it is imperative that these individuals be interviewed as soon as possible. Without such interviews, a great storehouse of information will be irretrievably lost.

Diaries and miscellaneous papers are also excellent sources of information, as they have the advantage of having been written contemporaneously with the events they describe. Together with personal interviews, they can provide detailed information needed to flesh out what stands as a skeletal history.

Several institutions are repositories for diaries and miscellaneous historic documents. Both the Nevada Historical Society and the Special Collections Library at University of Nevada, Reno, contain a wide range of such records. Additional research should be conducted at both institutions. The Bancroft Library at University of California is the best out-of-state source for central Nevada historic documents.

Finally, future research will be aided by thorough field examinations of specific historic sites. Such information is necessary for making effective management decisions regarding protection and preservation of the unique historic heritage in Shoshone-Eureka Resource Area.

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Stage Stations Located in Shoshone-Eureka Resource Area

Name	Pony Express or Overland Stage	Condition	Ownership	Current Ranch Operations
Diamond Springs	Both	No Evidence	PVT	Yes
Sulphur Springs	Both	No Evidence	PVT	No
Robert's Creek	Both	Dug out; questionable origin	PVT	Yes
Grubb's Well	Pony Express	No Evidence	PVT	Yes
Camp Station	Overland	?	?	No
Dry Creek	Both	Stone Foundations	PVT	Yes
Cape Horn	Overland	Stone foundations; heavily damaged	Pub	No
Simpson Park	Both	Stone foundations	PVT	?
Reese River (Jacobsville)	Both	Stone foundations	PVT	No
Dry Wells	Pony Express	No Evidence	Pub	No
Mount Airey	Overland	Stone foundations	Pub	No
Smith Creek	Pony Express	Original corral and Partial building	PVT	Yes
Castle Rock	Overland	?	?	No

Based on Mason (1976)

APPENDIX B -- Total Production Figures from the Reese River Mining District (Austin), the Eureka Mining District, and Silver Prices From 1865 to 1910

YEAR	REESE RIVER DISTRICT (AUSTIN) GROSS YIELD	EUREKA DISTRICT (EUREKA) GROSS YIELD	SILVER PRICE PER OUNCE
1865	$ 476,692	--	$1.337
1866	881,542	$ 929	1.339
1867	685,172	120,711	1.33
1868	1,493,895	19,155	1.326
1869	794,731	5,932	1.325
1870	1,102,751	107,900	1.328
1871	640,476	1,451,835	1.325
1872	651,781	2,098,489	1.322
1873	636,790	2,643,046	1.297
1874	832,565	2,798,492	1.278
1875	934,903	3,064,001	1.24
1876	730,077	2,083,308	1.16
1877	559,548	3,821,191	1.20
1878	647,534	5,200,871	1.15
1879	543,300	3,647,665	1.12
1880	533,309	3,347,315	1.15
1881	787,284	2,979,372	1.13
1882	482,909	2,289,628	1.14
1883	872,959	1,490,008	1.11
1884	701,097	1,200,436	1.11
1885	499,800	2,560,000	1.07
1886	306,189	782,804	.99
1887	295,329	879,449	.98
1888	171,767	626,561	.94
1889	309,082	277,971	.94
1890	94,596	543,336	1.05
1891	160,125	460,702	.99
1892	179,027	421,424	.87
1893	193,301	335,287	.78
1894	-- @	184,204	.63
1895	73,605	184,705	.65
1896	57,745	168,937	.68
1897	46,372	273,296	.60
1898	127,114	114,070	.59
1899	120,170	155,208	.60
1900	217,265	170,466	.60
1901	-- @	134,811	.60
1902	227,484	117,919	.53
1903	113,788	98,430	.54
1904	17,800	61,105	.58
1905	15,087	73,105	.61
1906	39,170	144,669	.68
1907	19,535	439,617	.66
1908	10,119	327,265	.53
1909	9,074	738,476	.52
1910	22,464	108,568	.54

* Based on Couch and Carpenter (1943) and Ross (1953).

@ No figures reported for this date.

APPENDIX C -- Compilation of Communities and Camps on a Mining District Level for the Shoshone Planning Area

DISTRICT	LOCATION	COMMUNITIES OR MINING CAMPS IN THE DISTRICT	LOCATION	OWNERSHIP	DATES OF POST OFFICE OPERATIONS *	NOTES
Argenta	T31 & 32N R46 & 47E	Argenta			Dec 1868 to Feb 1874	Community moved to site of Battle Mountain
Aspen	T15N R37 & 38E					
Battle Mountain	T31 & 32N R43 & 44E	Old Battle Mountain	T32N R43E	?		Moved to Contemporary site of Battle Mountain
		Galena	T31N R43E	Public	June 1871 to May 1887	Trees, walls & cemetery remain
		Copper Basin	T32N R44E	Private		
		Copper Canyon	T31N R43E	Private	Aug 1917 to Rescinded	
		Buckingham Camp	T32N R44E	Pub/Pvt		
		Bannock	T30N R43E	Private	Nov 1909 to July 1910	Discovery prompted explosive boom. Last Rig to Battle Mountain written about this town
		Telluride	T32N R43E	?		
Big Creek	T17 & 18N R43E	Canyon City	T17N R43E	NFS	Aug 1863 to Oct 1867	Antimony from this district.
		Lander City	T17N R43E	NFS/Pvt		
		Mineral City	?	NFS or Pvt		
		Watertown	?	NFS or Pvt		
Birch Creek	T17 & 18N R44E	Geneva	T18N R44E	Public	June 1867 to Sept 1868	Both camps deserted by 1867
		Clinton	?		Apr 1864 to Dec 1864	Renewed slight interest in 1900s
Buffalo Valley	T32N R42E					
Bullion	T28, 29 & 30N R45, 46 & 47E	Lander	T28N R47E	Private	Oct 1906 to Oct 1909	Dugouts visible from road
		Bullion	T28N R47E			
		Tenabo	T28N R47E	Pvt/Pub	Dec 1906 to July 1912	Still occupied
		Goldquartz	T28N R47E	Public		
		Gold Acres	T28N R47E	Pub/Pvt		
		Mud Springs	T29N R47E	?		
Cortez	T26 & 27N R47 & 48E	Cortez	T26N R48E	Pub/Pvt	Jan 1868 to Oct 1869 & June 1892 to June 1915	Chinese community near town
Gold Basin	T16 & 17N R38E	Carroll			Dec 1911 to Nov 1914	
Hilltop	T29 & 30N R46E	Dean	T30N R45E	Pub/Pvt	Oct 1894 to Nov 1905	Buildings remain, although recent
		Hilltop/Kimberly	T29N R46E	Pub/Pvt	Feb 1909 to Mar 1931	Many residents in B.M. came from here
		Marysville	T29N R46E	?		
		Pittsburg	T30N R46E	Pub/Pvt	Oct 1888 to Aug 1893 Dec 1897 to May 1900	
Jackson	T14 & 15N R39E	Gold Park	T15N R39E	NFS	Dec 1897 to Jan 1899 Feb 1921 to Feb 1925	
Kingston	T15 & 16N R43E	Kingston	T16N R43E	NFS/Pvt	Jan 1865 to May 1865 June 1867 to Dec 1867 Feb 1885 to Apr 1886 July 1906 to Jan 1907	Mill moved to Ely
		Bunker Hill	T16N R43E	?		
		Guadalajara	T16N R44E	NFS/Pub		Stone structures; possible early Mexican mining community before Austin.
Lewis	T29 & 30N R45E	Lewis	T30N R45E	Pvt/Pub	Apr 1878 to Aug 1901	Three sections of town scattered up Lewis Canyon
		Betty O'Neal	T30N R45E	Private	June 1925 to Apr 1932	Production started in 1882
McCoy	T23N R42E					Mined during this century; iron most important product
Mountain Springs	T28N R44E					Recent barite operation
New Pass	T20 & 21N R40 & 41E					
Ravenswood	T22 & 23N R42 & 43E					
Reese River	T18, 19 & 20N R43 & 44E	Jacobsville	T19N R43E	Private	Mar 1863 to Apr 1864	Outside district, but location of 1st community
		Clifton	T19N R43E	Private	Mar 1863 to Feb 1864	Terminus of NCRR.
		Austin	T19N R44E	Private	Nov 1863 to	See text
		Yankee Blade	T19N R44E	NFS		
		Amador	T20N R43E	Pub/NFS	Apr 1864 to Apr 1866	Foundations walls visible

APPENDIX C -- Compilation of Communities and Camps on a Mining District Level for the Shoshone Planning Area

DISTRICT	LOCATION	COMMUNITIES OR MINING CAMPS IN THE DISTRICT	LOCATION	OWNERSHIP	DATES OF POST OFFICE OF OPERATIONS *	NOTES
Skookum	T19 & 20N R42 & 43E	Skookum	T19N R43E	Public		Both of these camps were short-lived tent cities
		Greenah	T20N R43E	Public		
Twin River	T13N R42E	Park Canyon	T13N R42E	NFS or Pvt	Jan 1886 to Nov 1886	Mill brought here from Yankee Blade in 1867
		Millett	T13N R43E	Private	May 1906 to July 1930	Outside district, but served as important station
Washington	T14 & 15N R42E	Washington	T15N R43E	NFS	July 1870 to Aug 1872	Initial discovery 1863; Spanish may have worked mines
		San Juan	T15N R42E	NFS or Pvt		
Warm Srpings	T27N R43E					Mercury
Wild Horse	T23N R40E					Mercury and Manganese

* Frickstad and Thrall (1958): Many communities or camps were operating before a post office was established. These dates only serve as rough brackets for occupation of a particular place.

APPENDIX D -- Compilation of Communities and Camps by a District Level for Eureka Planning Area

DISTRICT	LOCATION	COMMUNITIES OR MINING CAMPS IN THE DISTRICT	LOCATION	OWNERSHIP	DATES OF POST OFFICE OPERATIONS *	NOTES
Alpha	T23, 24 & 25N R52E	Alpha	T25N R51E		Mar 1877 to Feb 1886 Aug 1919 to Nov 1924	Station on E&P Railroad; outside district.
Antelope	T23N R49E					
Diamond	T22N R54E	Diamond	T22N R54E		? 1874 to July 1874	Also known as Phillipsburg District.
Eureka	T18 & 19N R53E	Eureka	T19N R53E	Private	Jan 1870 to	See text
		Ruby Hill	T19N R53E	Private	Sept 1873 to Nov 1901	Mining center of Eureka
Fish Creek	T17 & 18N R51 & 52E					
Mt. Hope	T22N R51 & 52E					Early development by Thomas Wren.
Lone Mountain	T20N R51E					
Secret Canyon	T18N R53E	Prospect	T18N R53E	?	Mar 1893 to Apr 1918	
		Vanderbilt	T18N R53E	Private	Aug 1871 to Aug 1873	
Spring Valley	T19N R52E	Columbia	T19N R52E			
Spencer Hot Spring	T16 & 17N R45½ & 46E					Tungsten ore

* Frickstad and Thrall (1958): See note in Appendix C.

APPENDIX E -- List of Historic Newspapers Published in the Resource Area

COMMUNITY	NEWSPAPER NAME	DATES OF PUBLICATION
Eureka	Cupel	?
	Eureka Daily Leader	1878-1885
	Eureka Daily Republican	1877-1888
	Eureka Sentinel	1870-Current
	Eureka Tri-Weekly Standard	1885-1886
	Republican Press	1884-1885
Ruby Hill	Mining News	1883-1884
	Ruby Hill Mining Report	1879
Austin	Austin Republican	?
	Austin Sun	1933-1934
	Daily Morning Democrat	1882-1883
	Nevada Progressive	1924-1925
	People's Advocate	1890-1893 & 1898-99
	Reese River Reveille	1864-Current
Battle Mountain	Battle Mountain Herald	1908-1911
	Battle Mountain Messenger	?
	Battle Mountain Scout	1914-1943
	Central Nevadan	1885-1907
	Lander Free Press	1881-1882
	Measure for Measure	1875
Hilltop	Kimberly News	1910
Lewis	Lewis Herald	?